CITY OF TORONTO
PLANNING AND DEVELOPMENT DEPARTMENT

550/02010-1
Urban Design
September 7, 1982

To: Land Use Committee.

Subject: Proposed Pattern of Streets and Blocks on the Railway Lands - Progress Report II.

Origin: Land Use Committee, June 14, 1982 (c711uc82442:81)

1. Background and Summary

At its meeting on June 14, 1982, your Committee received my Report entitled "Part II Plan for the Railway Lands: Progress Report". The Committee requested that I report back to the Land Use Committee in September on the street system and block development for this area.

This report addresses that request. Points of departure have been the statements in the Approved Goals and Objectives for the Railway Lands about the use of streets and blocks as a unifying element tying the City to the waterfront, a preliminary assessment of functional transportation requirements, and an assessment of the physical opportunities for connections and linkages. Although the development potential allocated to the Railway Lands in the Part I Official Plan has been taken into account, this report does not specifically address issues related to the scale of development, compatibility with City and Metro policies of office deconcentration, and the impact of Railway Lands development on the street and transit systems external to the lands.

In view of the issues which remain to be resolved, the work to date on the pattern of blocks and streets is not definitive. However, some of the options and opportunities have been clarified in preliminary studies undertaken by consultants working on behalf of the Railway Lands Steering Group, CN Realty and Marathon individually, and staff of my department. These studies have been synthesized by staff in the preliminary schematic streets and blocks diagram appended to this report.

In view of the considerations noted above, this preliminary streets and block diagram is put forward by the Planning and Development staff as a framework for evaluating the policy, transportation and other implications of a range of development options. Such an evaluation would involve detailed consultation with the Department of Public Works, the appropriate Metro Departments and representatives of the railways. The approach for proceeding on the street system and block development recommended in this report is, therefore, that the attached preliminary plan

of streets and blocks be used as a basis for evaluation of a variety of development scenarios and their policy and technical implications.

2. Comments

2.1 General Considerations

The Railway lands are an area of nearly 200 acres centrally located with a significant physical potential for development, but poorly served at present by streets and transit. Access was identified from the outset as a fundamental problem. At an early stage in the process, the Railway Lands Steering Group commissioned an Access Study to identify the constraints and possibilities for improving access to the lands.

The Phase II Access Study identified the possible street access points from the Railway Lands onto the existing street network. Although these have yet to be fully assessed in terms of their effective capacity and functional design, they do present a basis from which to extend streets into the Railway Lands and thus develop a possible street alignment pattern. This pattern, which is shown schematically on the attached diagram, evolved from physical considerations, including those related to urban design, which are spelled out in the Goals and Objectives. As yet, it is only an alignment network, and the function and effectiveness of this network in terms of handling traffic and transit demands in the area has yet to be tested. This testing will follow as the scale of development, and the costs, feasibility and problems of the street network, in handling various levels of travel demand, are examined.

This preliminary street system forms a pattern of development blocks, which are also indicated on the attached diagram. Streets also define two major parks, one centred around Fort York and one in the CN Tower and Roundhouse area. Development of these parks is considered a crucial element in the development of the Railway Lands in accordance with the Goals and Objectives. This preliminary street system and block pattern is described below in two stages. First, the basic network is described in terms of very general functional requirements. Second, the street system and block pattern are examined with reference to the Goals and Objectives, with particular emphasis on urban design issues.

2.2 General Functional Requirements

In developing an internal street system for the Lands, it was assumed that in addition to accommodating vehicular and transit movements anticipated within the Lands, the internal network would have an important function with respect to the surrounding Central

Area, particularly the nearby major office concentrations. Both of these functions are described in a very general and preliminary way as follows.

2.2.1 North-South Streets

The internal street system must provide access both to the Gardiner Expressway and Lake Shore Boulevard to the south, and give additional access points to the north. These north-south street alignments identified at Simcoe Street, Portland Street and a minor connection at Peter Street together with the existing north-south streets (Bathurst, Spadina, York and Bay) will unite the City and the Waterfront area consistent with the Goals and Objectives and the Waterfront Part I Proposals, and provide the necessary linkages with the major east-west transportation corridor in the Waterfront area. Regardless of the level of development on the Railway Lands, it is essential that the above-mentioned street alignments be seen as providing an effective distribution of vehicular traffic from the areas beyond the Lands, as well as within them.

Simcoe Street Extension and John Street

As was established in reviewing the Harbourfront road proposals during the p.m. peak, access to the Gardiner/Lake Shore Corridor from York and Bay Streets in particular is extremely congested. With major development being contemplated on the eastern part of the Railway Lands, this congestion will severely worsen unless additional points of entry to Lake Shore Boulevard can be established. To assist in spreading traffic movement from the eastern portion of the Railway Lands connections to Lake Shore Boulevard will be provided at Simcoe and John Streets. In particular the Simcoe Street extension from north of Front Street to Lakeshore Boulevard has been considered as a significant link for the Railway Lands given the existing congested conditions on York and Bay. Both Simcoe and John Streets will be linked to the major East/West route.

Spadina Avenue

Spadina Avenue plays a significant role in providing vehicular access to the Gardiner/Lake Shore Corridor from the downtown. It is proposed that this function be expanded by providing for an exclusive north-south transit corridor on Spadina Avenue, linking the subway system with the Waterfront area. In previous transit studies in relation to the Harbourfront, the north-south transit constraints have been acknowledged. The proposal to connect Harbourfront and the Central Bayfront area to the subway system using Spadina Avenue as the functional link offers an effective, practical and feasible alternative.

In order not to interfere with the Spadina Avenue function as a vehicular link with the Gardiner/Lake Shore Corridor, the Spadina Bridge requires reconstruction and widening to permit the installation of an exclusive right-of-way for a fixed rail transit facility.

Portland Street

In the western part of the Railway Lands north-south access through the Railway Lands is required to provide an additional entry point to Lake Shore Boulevard as well as to link this area with the King/Spadina area to the north and Harbourfront to the south.

Bathurst Street

Bathurst Street presently functions as an access to Lake Shore Boulevard from the western part of the central areas as well as providing a transit connection to and from the western waterfront area and the CNE lands. Railway Lands development can be expected to utilize this link.

2.2.2 East-West Spine

As indicated on the schematic road plan, provision has been made for a major east-west street which generally traverses the middle of the Railway Lands in segments and extends from Bay Street to Bathurst Street. This major east-west street will be an internal spine for travel within the Railway Lands, and will provide access to the various north-south connections with the Gardiner/Lake Shore Corridor. Specifically, the east-west spine provides access to the Gardiner/Lake Shore corridors by intersecting with Simcoe Street, John Street, Portland Street, Bathurst Street and Bay Street, and grade separated junctions at York and Spadina. It also provides a transit route option with possible connections to the Spadina and Bathurst bus and street cars, and the subway and GO systems via Union Station.

2.2.3. A Waterfront Transit Right-of-Way

The attached preliminary streets and blocks diagram provides for the introduction of an east-west intermediate capacity transit system connecting with Union Station and serving major parts of the Central Waterfront, including the Railway Lands, Harbourfront, the Canadian National Exhibition and Ontario Place. The alignment of the Waterfront route as initially proposed follows the existing Hi-line, which presently serves as freight by-pass. This embarkment can provide a grade-separated exclusive right-of-way which in many ways lends itself to a practical and perhaps easier installation of such a transit service. In addition, the proposed

alignment along the Hi-Line could provide an opportunity to serve both the Railway Lands and Harbourfront.

By intersecting with Spadina Avenue and Bathurst Street, the Waterfront route could also provide for essential links into the regional transit system. Use of these links provides an opportunity to reduce the dependency on Union Station, and effectively spread transit users to alternate routes.

2.3 The Preliminary Streets and Block Plan in the context of the Goals and Objectives and Related Urban Design Considerations

2.3.1 Overcoming the barriers:

The Goals and Objectives state:

"A. Develop the Railway Lands to unite the Central City and Its Waterfront:

A1. Plan to minimize the barrier effects of the road and rail corridors and the isolation of the Lands as far as practicable taking into account the expense of minimizing the barrier effects and the potential effect of infrastructure costs on the feasibility of a desirable form of development."

With regard to the southern barrier, three new "windows" have been identified at the Portland Street, John Street and Simcoe Street alignments, in addition to present linkages at Bathurst, Spadina, York, Bay and Yonge Streets. In addition to improvements to the viaduct connections at York, Bay and Yonge Streets, a widening of the Spadina Avenue opening is considered desirable. At the new "windows", efforts are being made to consistently align view corridors, and to provide pedestrian and vehicular access through the Railway Lands to Harbourfront. Between these openings it is proposed to retain segments of the Hi-Line embankment for future use as a reserved grade separated east-west transit right-of-way or an east-west linear park system. The Hi-line also serves as an effective noise, dust and visual barrier protecting future developments from the impacts of Lakeshore Boulevard.

The attached diagram has been developed assuming no immediate changes to the Lakeshore/Gardiner corridor which is under Metropolitan jurisdiction. It is contemplated however, that future changes to the corridor may create greater opportunities to overcome the southern barrier. I am recommending in a separate report that a consultant be retained to analyse possible options or changes to the access ramps in this transportation corridor between Spadina Avenue and Jarvis Street which could reduce its barrier effect in the Central Area.

To overcome the northern barrier created by the rail corridor, new crossings are proposed, in addition to the enlargement of Spadina Avenue. Because of the changing grade relationships from east to west, Simcoe Street must tunnel under the corridor, and Peter and Portland Streets carry over as bridges. A new pedestrian bridge is indicated on the John Street alignment where grades inhibit a full street crossing.

The Front Street frontage from Peter Street to Spadina will be developed as a building site completing the street wall in that area, but west of Spadina a particular problem has emerged which severely inhibits the utilization of lands south of Front Street and over to Bathurst for development. The GO idling yards have been installed in this area with a track spacing which apparently at present precludes structural provision for air rights development, and at an elevation which prevents additional streets from being carried over the corridor. This installation contravenes an agreement between CN and Province. CN has been asked to produce further studies on ways of overcoming this problem.

2.3.2 North-South Streets

The Goals and Objectives state:

"A2. Establish the north/south streets as the major connections between the central city and the Waterfront by extending as many of them as possible across the Lands and, where appropriate, developing buildings and activities along them."

From east to west the opportunities are as follows:

Yonge Street

While Yonge Street does not link directly with the proposed internal street network, it is anticipated that the development of the railway lands (and the Central Bayfront) will offer the opportunity to:

- improve pedestrian facilities under Viaduct (in progress);
- provide improved pedestrian connections at grade north of Viaduct to the Federal Building on west side of Yonge and to the Esplanade east of Yonge;
- provide for and preserve direct view of Yonge Street slip from south end of viaduct;

- provide street related facilities at grade in new buildings, with a pedestrian colonnade and improved sidewalk south of viaduct west of Yonge (City Parcel);

- provide safe continuous and attractive pedestrian access at grade on sidewalks; b/s between Queen's Quay and south end of viaduct with a modified intersection of Lakeshore and Yonge and eventually a two-way Yonge Street right to the water's edge.

Bay Street

Bay Street is the eastern terminus of the proposed east-west street. It is anticipated that the development of the railway lands (and the Central Bayfront) will offer the opportunity to:

- improve pedestrian facilities under Viaduct (in progress). Acknowledge large flow of people to Ferry Terminal and Harbourfront, including possible future pedestrian use of "Teamway" in Union Station;

- provide improved pedestrian connections at grade north of the viaduct to Union Station (GO Concourse level) and Federal Building;

- provide street related facilities, a pedestrian colonnade and improved sidewalk at grade in new building south of viaduct east of Yonge (City Parcel);

- provide for east-west mid-block pedestrian connections and crossing of Bay at grade west to Blue Route and Concourse of Union Station and east to Yonge Street;

- provide safe, continuous and attractive pedestrian access at grade from south end of viaduct to Queen's Quay and Harbour Square Park.

York Street

There is a significant oopportunity to reduce the length of "tunnel" on York Street. York Street is intended to provide an important point of entry to the Railway Lands, making it possible to:

- improve Pedestrian facilities under Viaduct. Acknowledge large flow of people to Harbourfront

including possible future pedestrian use of "Teamway" in Union Station;

- provide improved pedestrian connection at, below and above grade north of the viaduct to Union Station (Concourse level), new Marathon building and CN Express building;

- remove as much of viaduct structure as possible south of the approved TTR corridor to reduce "tunnel" to minimum;

- provide street related facilities pedestrian colonnades and improved sidewalks in new buildings on b/s of York Street from the reduced viaduct tunnel to the York Street Slip and Harbourfront;

- provide for new east-west street connections between Front and the Lakeshore and crossing of York for pedestrians east to the Blue Route and Concourse of Union Station and west to the major park at the base of the CN Tower.

Simcoe Street

The first opportunity to create a new north-south link is at Simcoe Street. The extension of Simcoe from Front Street to the Lakeshore with suitable grades for a new tunnel under the Aqueduct is a major objective. It will:

- provide for safe, attractive pedestrian connection from Simcoe and Station Streets linking the CN Hotel and CN Express building developments over, and/or under the viaduct to the major Railway Lands Park and developments south of the tracks;

- provide frontage for residential buildings on east side of Simcoe Street to give strong architectural definition of edge of Railway Lands Park;

- provide opportunities at grade on the east side for street related uses and generous tree lined sidewalk;

- provide the western edge of the major Railway Lands Park;

- provide for safe and attractive grade level connection across Lakeshore Boulevard to York Quay

in Harbourfront at southern end of Simcoe Street; and

- provide for grade level intersection with new east-west street through Railway Lands.

John Street

While John Street will not be extended over the tracks as a vehicular access street, its alignment can be utilized to:

- provide generous sequence of attractive public spaces providing pedestrian access from west downtown over the rail corridor to Harbourfront; including from north to south;
- function as part of the park bounded by Front Street, the rail corridor, the Convention Centre and Phase II of the Royal Bank Computer Centre;
- provide for a generous indoor and outdoor "Bridge" over the rail corridor;
- provide direct pedestrian access to the CN Tower;
- link major Railway Lands Park with access east and west through additional park linkages; and
- create a major north-south walkway from Railway Lands to Harbourfront including enlarged opening under present Hi-Line.

Peter Street

Peter Street offers the first opportunity moving from east to west to carry a street over the rail corridor. A Peter Street bridge would:

- provide pedestrian and vehicular access to the Railway Lands from the West Downtown; and
- provide a major pedestrian connection down to the proposed Roundhouse circle, a major pedestrian open space in the CN lands.

Spadina Avenue

The reconstruction of the Spadina bridge to the full right-of-way width of 36 metres is necessary in order to accommodate the introduction of a major surface transit route. This width, plus a

shortened length of actual "bridge" due to the consolidation of the rail corridor will:

- provide for the creation of generous tree-lined sidewalks, three lanes of traffic in each direction and two reserved lanes for the Spadina LRT;
- provide a structure south of the "bridge" which can incorporate parking and service functions below the "street";
- create opportunitites for shops, cafes and landscaped building entrances to extend the vitality of Spadina Avenue down to the Waterfront;
- provide for a major transit interchange between the Spadina LRT and an east-west line with attractive and convenient pedestrian access to the CN lands and Harbourfront; and
- provide east-west connections to the Railway Lands via a pair of ramped streets, connecting Spadina Avenue to an east-west network below.

Portland Street

Portland Street should be extended over the tracks on its present alignment and extended right to the water's edge as a visual corridor with a limited intersection at Lakeshore Bouelvard. A right-of-way for an extended Portland Street has already been established in Harbourfront. As the major north-south link between Spadina and Bathurst, and extended Portland Street will:

- link the Railway Lands to the King-Parliament area to the north and Spadina and Bathurst quays to the south;
- form the easterly edge of the expanded Fort York Park; and
- provide frontage for residential buildings on the east side.

2.2.3 East-West Streets and Block Patterns

The relevant statements from the Goals and Objectives are as follows:

"C. Plan to achieve on the lands a development pattern that is generally street-oriented but recognizes the physical conditions which are peculiar to the lands.

C1. Plan to establish a system of streets and development parcels which is integrated with the City's existing street pattern and which is capable of accommodating the full range of uses contemplated in these Goals and Objectives.

C2. Plan to ensure that buildings are sited and designed so that they help to define the character and form and contribute to the life of the streets, pedestrian ways and open spaces along which they are located.

C3. Plan the size and shape of blocks and development parcels so that they facilitate the incremental development of the Lands and are appropriate to the uses which they accommodate.

C5. Plan for the road traffic patterns within the Lands to be compatible with those of surrounding areas and for the particular traffic function of each street to be appropriate to the uses and activities located along it.

C7. Plan to incorporate, where appropriate, those characteristics of Toronto's existing streets which are distinctive, successful and familiar."

Whereas the proposed north-south streets are largely extensions of existing streets through the Railway Lands, the internal east-west streets are for the most part, new. The proposed alignments of the east-west streets shown on the attached schematic diagram deviate in many instances from a straightforward rectilinear pattern in order to accommodate complex changes in level, avoid existing structures, and achieve workable intersections at York Street and Spadina Avenue. These east-west streets, particularly, the main east-west spine are used to structure the internal block network within the lands.

The grid established by the combination of north-south and east-west streets results in a pattern of blocks which are of dimensions compatible with the prevailing Toronto pattern. It is anticipated that these blocks will be developed in accordance with the traditionally successful forms of street related building in Toronto. Specifically, it is intended that the following measures be taken in order to ensure such success:

- The public sidewalks will be the primary pedestrian spaces with street crossings at grade at street intersections.

- Active public uses and entrances will be concentrated at grade.

- Care will be taken to ensure sunlight on sidewalks and minimize unpleasant wind conditions.

- Vehicular crossings of pedestrian sidewalks will be kept to a minimum.

- Long views will be framed by street forms.

- Attention will be paid to street landscaping and the provision of partial weather protected routes along sidewalks through use of colonnades and awning devices.

For the purposes of convenience, the two main east-west streets through the Railway Lands have been dubbed the Canadian Pacific and the Canadian National Esplanades.

Candian Pacific Esplanade

As currently envisaged and illustrated on the attached Schematic diagram, this street intersects with Bay, south of Union and ramps up to the west over York Street intersecting Simcoe at grade and turning south to link into the present alignment of Rees Street. As a broad, generously landscaped "main street" it would:

- form the northern edge of Union Plaza, a major pedestrian space south of Union Station utilizing from the point where headroom is available, the space beneath the street for pedestrian movement and retail uses;

- form the northern edge of a public square at York Street, and provide for pedestrian connections between the higher and lower level grades;

- provide the main pedestrian and vehicular access to the major park at the CN Tower with active, grade related activities between broad tree-lined sidewalks, and colonnades along building frontages, as well as providing the principal access to the CN

Tower from the south and to a possible Railway History Museum in the present CP Roundhouse.

As in the case of Spadina the grade separated crossing of Spadina and the east-west street is shown linked by a pair of ramped streets whose frontage will be carefully integrated with building designs.

Canadian National Esplanade

This street extends from one block east of Portland Street through the middle of the CN lands under Spadina Avenue on axis with the CN Roundhouse and passes through the Roundhouse Circle bending south to join the southerly east-west street. As a broad generously landscaped, local "main street", it:

- is the locus of neighbourhood retail and community facilities; and
- provides the major east-west pedestrian linkage from the enlarged Fort York Park to the CN Roundhouse Circle.

Northern Street

This street is shown extending from Portland to Peter along the southern boundary of the rail corridor. Raised to permit bridging of the corridor it will:

- act as a partial sound barrier from the rail corridor to the developments onto the south;
- create opportunities for below grade parking above the water table while allowing for street related uses at grade;
- allow for building "fronts" to face the area north of Front Street across the corridor rather than blank rear elevations, provided that environmental constraints do not prohibit this; and
- allow for future additional bridges to be constructed.

Housey Street Extension

This street starts from an existing right of way off Bathurst Street and proceeds east with a break for one block on either side

of Spadina, over to the John Street extension. As the southern edge of the railway lands street system, it will:

- provide needed access to the south-west corner of the CN lands; and

- form a public southern edge of the residential neighbourhood on the CN lands and provide a separation from environmentally difficult lands beneath the Gardiner Expressway.

3. Conclusion

The attached diagram represents a preliminary draft of the pattern of blocks and streets for the Railway Lands derived from staff and consultant studies. It attempts to produce a street system which could achieve a number of the Goals and Objectives approved by Council within the context of constraints and limitations imposed by the site. It has not been designed to accommodate a specific level of development, but does provide a definite framework for evaluation of the policy, transportation and other implications of various development options.

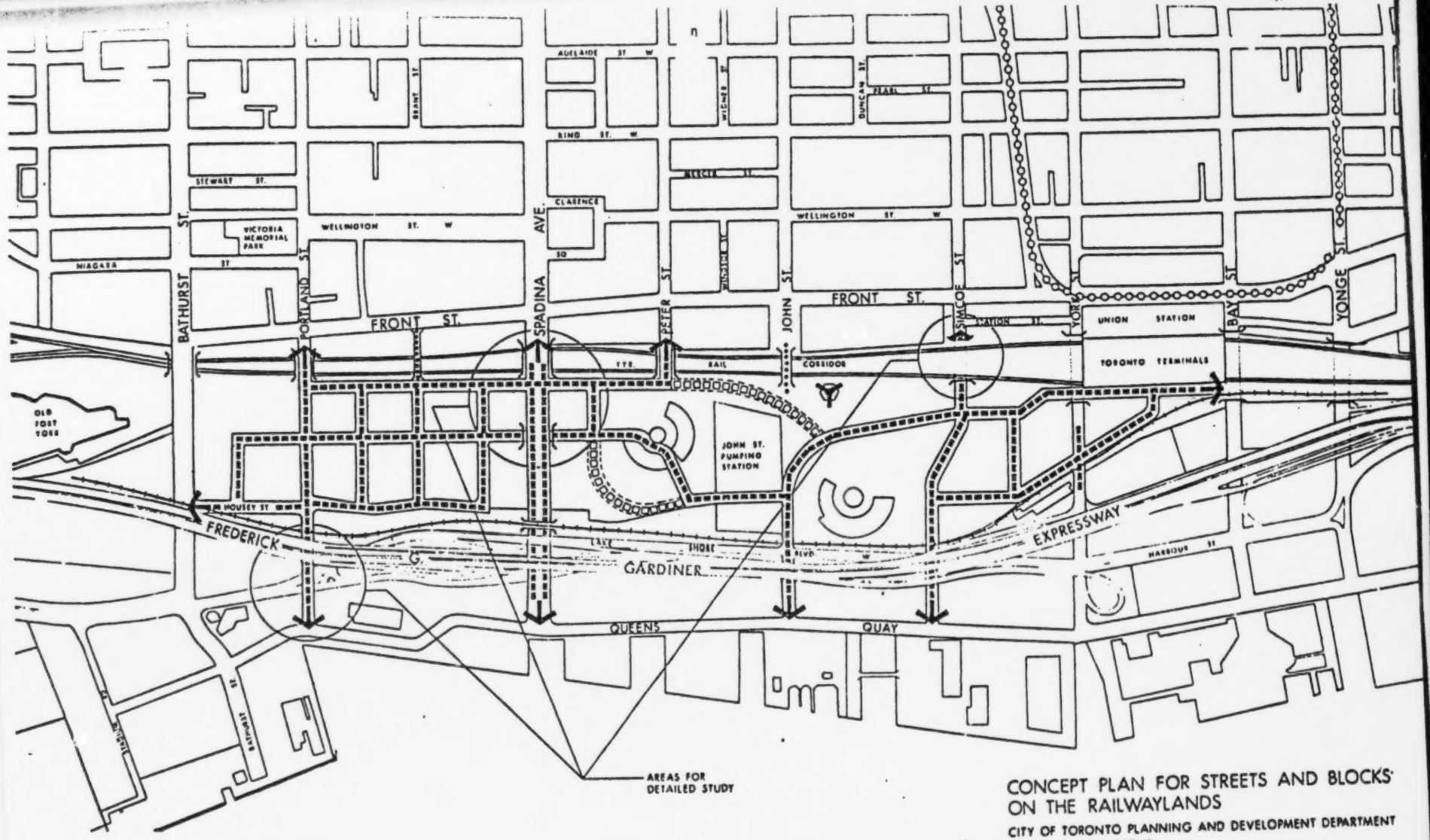
These implications include, among other things, further study of measures to overcome the barrier effects of the Lakeshore/Gardiner Corridor and the Rail Corridor between Spadina and Bathurst; review of operational feasibility of the proposed street network and capacity constraints relating to policy concerns, development prospects, construction feasibility; phasing and the finalization of a reserved right of way for east-west transit.

Work on these areas will continue in consultation with the railways and the appropriate City, Metro and Provincial officials.

Recommendation:

That the Land Use committee receive this report for information and endorse the approach outlined in Section 1 as a basis for further evaluation and technical study.

Stephen G. McLaughlin
Commissioner



SCALE 1" = 500'

CONCEPT PLAN FOR STREETS AND BLOCKS ON THE RAILWAYLANDS

CITY OF TORONTO PLANNING AND DEVELOPMENT DEPARTMENT
URBAN DESIGN GROUP

DRAWN BY F.S. DATE SEPT., 82
CHECKED BY R.G. FILE No 515

MAP No. 1

POOR

QUALITY

ORIGINAL